

CLAIMS

[CLAIM 1]

An information-processing device at a communication source, that
5 communicates with an information-processing device at a communication destination through a communication control device at the communication source, comprising:

a span of packet life setting part that sets a span of packet life in a range in which a bubble packet transmitted from the
10 information-processing device at the communication source in order to leave a transmission history in the communication control device at the communication source, does not reach the information-processing device at the communication destination; and

a bubble packet transmitter that transmits a bubble packet
15 having a span of packet life that the span of packet life setting part has set, through the communication control device at the communication source.

[CLAIM 2]

20 An information-processing device as claimed in claim 1, wherein communication between the information-processing device at the communication destination and the information-processing device at the communication source is performed through a communication control device at the communication destination; and wherein
the span of packet life setting part sets a span of packet life in a range in which a bubble packet does not reach the communication control device at the communication destination.

[CLAIM 3]

An information-processing device as claimed in one of claim 1 and claim 2, wherein

5 the span of packet life setting part sets a span of packet life so that the bubble packet can reach a relay node that relays packets from a global address to another global address.

[CLAIM 4]

10 An information-processing device as claimed in claim 3, wherein
 the span of packet life setting part sets a span of packet life so that the bubble packet can reach a relay node closest to the information-processing device at the communication source, out of relay nodes that relay packets from a global address to another global
15 address.

[CLAIM 5]

An information-processing device as claimed in claim 3, wherein
 the span of packet life setting part sets a span of packet life with
20 increasing the number of relay nodes that the bubble packet can reach, by one every time the bubble packet transmitter transmits a bubble packet, until communication is established between the information-processing device at the communication source and the information-processing device at the communication destination.

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[CLAIM 6]

An information-processing device as claimed in claim 2, wherein

the span of packet life setting part sets a span of packet life with which the bubble packet can reach a relay node located before the communication control device at the communication destination.

5 [CLAIM 7]

An information-processing device as claimed in claim 3, wherein

the span of packet life setting part sets a TTL (Time To Live) for a bubble packet.

10 [CLAIM 8]

An information-processing device as claimed in one of claim 1 and claim 2, further comprising

a relay node counter that counts the number of relay nodes from the information-processing device at the communication source,

15 wherein

the span of packet life setting part sets a life of the bubble packet based on the number of relay nodes counted by the relay node counter.

20 [CLAIM 9]

An information-processing device as claimed in claim 8, wherein

the relay node counter counts the number of relay nodes with traceroute.

25 [CLAIM 10]

An information-processing device as claimed in claim 4, further comprising

a relay node counter that counts the number of relay nodes located from the information-processing device at the communication source to a relay node closest to the information-processing device at the communication source, out of relay nodes that relay packets from a 5 global address to another global address, wherein

the span of packet life setting part sets a span of packet life of the bubble packet based on the number of relay nodes counted by the relay node counter.

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[CLAIM 11]

A method of transmitting a bubble packet in an information-processing device at a communication source that communicates with an information-processing device at a communication destination through 15 a communication control device at the communication source, comprising:

setting a span of packet life in a range in which a bubble packet transmitted from the information-processing device at the communication source in order to leave a transmission history in the 20 communication control device at the communication source, does not reach the information-processing device at the communication destination; and

transmitting a bubble packet that transmits a bubble packet having a span of packet life that the span of packet life setting part has 25 set through the communication control device at the communication source.

[CLAIM 12]

A program for having a computer transmit a bubble packet in an information-processing device at a communication source, that communicates with an information-processing device at an
5 communication destination through a communication control device at the communication source, comprising:

setting a span of packet life in a range in which a bubble packet transmitted from the information-processing device at the communication source in order to leave a transmission history in the
10 communication control device at the communication source, does not reach the information-processing device at the communication destination; and

transmitting a bubble packet that transmits a bubble packet having a span of packet life that the span of packet life setting part has
15 set, through the communication control device at the communication source.